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EXAMINER

ZAND, KAMBIZ

ART UNIT PAPER NUMBER

2132

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,737	WATANABE, JUNYA	
	Examiner	Art Unit	
	Kambiz Zand	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7, 14, 15 and 18-20 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 8, 10, 12 and 16 is/are rejected.
- 7) ☒ Claim(s) 2, 4, 6, 9, 11, 13 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this section can be found in the prior office action.
2. The prior office actions are incorporated herein by reference. In particular, the observations with respect to claim language, and response to previously presented arguments.
3. Claim 11 has been amended.
4. Claims 1-20 are pending.
5. Examiner withdraws objection to the drawings and specification due to correction by the applicant.

Information Disclosure Statement PTO-1449

6. Examiner acknowledges that The Information Disclosure Statement submitted by applicant (paper number 3-7) has been considered. (please see pto-1449 enclosed with the last office action).

Response to Arguments

7. Applicant's arguments filed 12/02/2004 have been fully considered but they are not persuasive with respect to claims 1, 3, 5, 8, 10, 12 and 16.

As per Applicant's arguments that Chen do not disclose "the previous embedding of a watermark signal into host signal" or "the insertion of a key information pattern", examiner refers Applicant to the following remarks:

- Chen disclose the pre-processing of the host signal or watermark signal includes “transforming, encoding, encryption, smoothing, or interleaving” as admitted by the Applicant (see page 12, last paragraph of the response). Examiner considers the act of encoding as embedding key information into a host signal or watermark signal; transforming also means modification of the original watermark signal. Therefore by embedding information into a watermark signal where examiner considers such watermark signal as host signal. Also see col.11 and 17 for more detailed.

As per Applicant's arguments with respect to claims 5, 7, 12 and 16 that Chen does not disclose “detecting key information patterns, nor detecting the watermark pattern based on parameters derived from such key information patterns”, examiner refers applicant to the following remarks:

- fig.2B the process and means of detection from receiving the composite signal to reconstruction of watermark signal after detection; Examiner refers applicant to the following definitions by Chen: col.11, lines 18-19 describe “watermark signal” as a signal to be embedded in a host signal and lines 38-40 disclose the signal can be analog or digital; col.10, line 9-11 also disclose the host signal can be analog or digital; line 53-67 and col.11, lines 1-2 disclose the meaning of the signal where signal can be a text or image or moving image such as video; col.12, lines 46-63 where extractor detects the composite signal that includes watermark pattern and key information and

synchronize the signal for extracting the information and reconstruction of the signals and where extractor is a means to determine the parameter closest to host signal and then reconstruct the watermark signal that corresponds to watermark pattern.

8. Applicant's argument with respect to claims 7 and 11 are persuasive.

Claim Objections

9. **Claims 2, 7, 9, 11, 13 and 17** are objected to because of the following informalities: typo error. Examiner suggests the following corrections:

Claim 7:

Replacement of the phrase "f or" (line 14) with the phrase "for".

Claims 9, 13 and 17:

Replacement of the phrase "present" (line 2) with the phrase "preset".

Claim 11:

Replacement of the phrase "insert ion" (line 2) with the phrase "insertion".

Please check the other claims for similar errors for possible corrections.

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In claim 1, the "for.." phrases makes the claims unclear in that neither means nor interrelationship of means are set forth in these claims in order to achieve the desired results expressed in the "for..." phrases. For example: It is not clear if the phrase after the phrase "for" is only description of watermark pattern inserter or is part of the limitations in the claim. If not claim language 1 only represent an inserter and nothing more than that. Examiner reserves the right to issue 112 first rejection if Applicant does not clear the ambiguity within the claim.

Further more claims 2 and 9 uses the phrase "when" which implies that insertion is an option that may not be done. Please clarify. Examiner suggests claim language be amended to be in harmony with the claim language similar to claim 6. Examiner reserve the right to withdraw the allowability of the claims 2 and 9 if no change or clarification be presented.

Claim Rejections - 35 USC § 102

10. Claims 1, 5, 7, 8, 12 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al (6,233,347 B1).

- Examiner refers applicant to abstract and figures where Chen disclose a system, method and product and means for embedding and extraction.

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As per claim 1 Chen et al (6,233,347 B1) teach an electronic watermark inserter for inserting an electronic watermark pattern or patterns for identifying a furnisher of a picture or image, termed "picture" collectively, into data of said picture, said inserter comprising: an electronic watermark pattern inserter (**see fig.1 where item 110A embedder system that corresponds to the Applicant's watermark pattern inserter; fig.2A details the embedder system where item 201 information embedder does the inserting job in harmony with other part of the system; see col.11, lines 66 and 67 disclose information embedder that corresponds to Applicant's watermark inserter**) for inserting previously generated key information pattern or patterns into a picture or pictures (**see col. 17, lines 19-25 where it disclose the watermark signal 101 that corresponds to Applicant's watermark pattern could be preprocessed such as encoding or encryption or other ways that modify the signal, Examiner considers the added information that result in modification of watermark signal corresponding to Applicant's previously inserted generated key information**) into which said electronic watermark pattern or patterns have been inserted (**see fig.1, item 102 where the watermark signal corresponds to Applicant's previously generated key information along with watermark pattern where the previously corresponds to item 109 where the watermark signal previously processed; and the watermark signal is added to host signal in item 110 A and that is the insertion; Examiner refers applicant to the following definitions by Chen: col.11, lines 18-19 describe "watermark signal" as a signal to be embedded in a host signal and lines 38-40 disclose the signal can be analog or digital; col.10, line 9-11 also disclose the**

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host signal can be analog or digital; line 53-67 and col.11, lines 1-2 disclose the meaning of the signal where signal can be a text or image or moving image such as video; therefore with that definitions Examiner refers Applicant to fig.2 where the process of insertion of watermarking is detailed where item 102 and 101 are feed to an item 260A as an input/output device and where the embedded information or key information are also combined with them through item 201 and then the output called composite signal is feed to transmitter 120; col.9, lines 29-31 disclose the composite signal as a signal (image or picture) that includes the host signal (image or picture) and a watermark signal (inserted watermark pattern and previous info.) embedded in the host signal) and for transmitting the resulting picture or pictures (see fig.2A where item 120 transmitter transmit the composite signal (that corresponds to transmission of the picture having watermarked pattern along with key information).

As per claim 5 Chen et al (6,233,347 B1) teach an electronic watermark detector (see fig.2A, item 200 where it disclose information extractor that corresponds to Applicant's detector) for detecting an electronic watermark pattern or patterns (see fig.2B the process and means of detection from receiving the composite signal to reconstruction of watermark signal after detection; Examiner refers applicant to the following definitions by Chen: col.11, lines 18-19 describe "watermark signal" as a signal to be embedded in a host signal and lines 38-40 disclose the signal can be analog or digital; col.10, line 9-11 also disclose the host signal can be

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analog or digital; line 53-67 and col.11, lines 1-2 disclose the meaning of the signal where signal can be a text or image or moving image such as video) for specifying a furnisher for a picture or image, termed "picture" collectively, inserted into data of said picture, comprising: means for detecting a key information pattern or patterns inserted into said data of the picture along with an electronic watermark pattern or patterns (see col.12, lines 46-63 where extractor detects the composite signal that includes watermark pattern and key information and synchronize the signal for extracting the information and reconstruction of the signals); means for generating parameters required for detecting the electronic watermark pattern or patterns from the key information as detected (see col.12, lines 50-63 where the extractor generates parameters such as quantizer specifier that was used for watermarking and determining the nearest quantization values to the original that corresponds to Applicant's parameter); and means for detecting said electronic watermark pattern or patterns from said picture based on the parameters generated in said parameter generating means (see col.12, lines 59-63 where extractor is a means to determine the parameter closest to host signal and then reconstruct the watermark signal that corresponds to watermark pattern).

Please also see other embodiment detailed by Chen with respect to rule of extractor throughout of the reference.

As per claim 8 teach a method for inserting an electronic watermark pattern or patterns

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for identifying a furnisher of a picture or image, termed "picture" collectively, into data of said picture, said method comprising the steps of: (a) providing a key information pattern or patterns (see Col.17, lines 19-25 where other information that modify the watermark signal and added in pre-process level as key information; col.24, lines 45-49 disclose added quantization value that also corresponds to key information pattern), (b) inserting the previously provided key information pattern or patterns into a picture or pictures (see col. 17, lines 19-25 where it disclose the watermark signal 101 that corresponds to Applicant's watermark pattern could be preprocessed such as encoding or encryption or other ways that modify the signal, Examiner considers the added information that result in modification of watermark signal corresponding to Applicant's previously inserted generated key information), into which an electronic watermark pattern or patterns have been inserted (see fig.1, item 102 where the watermark signal corresponds to Applicant's previously generated key information along with watermark pattern where the previously corresponds to item 109 where the watermark signal previously processed; and the watermark signal is added to host signal in item 110 A and that is the insertion; Examiner refers applicant to the following definitions by Chen: col.11, lines 18-19 describe "watermark signal" as a signal to be embedded in a host signal and lines 38-40 disclose the signal can be analog or digital; col.10, line 9-11 also disclose the host signal can be analog or digital; line 53-67 and col.11, lines 1-2 disclose the meaning of the signal where signal can be a text or image or moving image such as video; therefore with that definitions Examiner refers Applicant to fig.2 where

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the process of insertion of watermarking is detailed where item 102 and 101 are feed to an item 260A as an input/output device and where the embedded information or key information are also combined with them through item 201 and then the output called composite signal is feed to transmitter 120; col.9, lines 29-31 disclose the composite signal as a signal (image or picture) that includes the host signal (image or picture) and a watermark signal (inserted watermark pattern and previous info.) embedded in the host signal), and (c) transmitting the resulting picture or pictures (see fig.2A where item 120 transmitter transmit the composite signal (that corresponds to transmission of the picture having watermarked pattern along with key information).

As per claim 12 Chen et al (6,233,347 B1) teach a method for detecting an electronic watermark pattern for specifying a furnisher for a picture or image, termed "picture" collectively, inserted into data of said picture, comprising the steps of: (a) detecting key information pattern or patterns inserted into said data of the picture or pictures along with said electronic watermark pattern or patterns (see col.12, lines 46-63 where extractor detects the composite signal that includes watermark pattern and key information and synchronize the signal for extracting the information and reconstruction of the signals); (b) generating parameters required for detecting the electronic watermark pattern or patterns from the key information pattern or patterns as detected (see col.12, lines 50-63 where the extractor generates parameters such as quantizer specifier that was used for watermarking and determining the

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nearest quantization values to the original that corresponds to Applicant's parameter); and (c) detecting said electronic watermark pattern or patterns from said picture or pictures based on the parameters generated (see col.12, lines 59-63 where extractor determine the parameter closest to host signal and then reconstruct the watermark signal that corresponds to watermark pattern).

As per claim 16 Chen et al (6,233,347 B1) teach an electronic watermark detector (see fig.2A, item 200 where it disclose information extractor that corresponds to Applicant's detector) for detecting an electronic watermark pattern (see fig.2B the process and means of detection from receiving the composite signal to reconstruction of watermark signal after detection; Examiner refers applicant to the following definitions by Chen: col.11, lines 18-19 describe "watermark signal" as a signal to be embedded in a host signal and lines 38-40 disclose the signal can be analog or digital; col.10, line 9-11 also disclose the host signal can be analog or digital; line 53-67 and col.11, lines 1-2 disclose the meaning of the signal where signal can be a text or image or moving image such as video) for specifying a furnisher for a picture inserted into data of said picture, comprising: (a) a key information pattern detecting unit detecting a key information pattern inserted into said data of the picture along with an electronic watermark pattern (see col.12, lines 46-63 where extractor detects the composite signal that includes watermark pattern and key information and synchronize the signal for extracting the information and reconstruction of the signals); (b) a parameter generator generating

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parameters required for detecting the electronic watermark pattern from the key information as detected (see col.12, lines 50-63 where the extractor generates parameters such as quantizer specifier that was used for watermarking and determining the nearest quantization values to the original that corresponds to Applicant's parameter); (c) a watermark pattern detector detecting said electronic watermark pattern from said picture based on the parameters generated in said parameter generator generated (see col.12, lines 59-63 where extractor determine the parameter closest to host signal and then reconstruct the watermark signal that corresponds to watermark pattern).

Claim Rejections - 35 USC § 103

11. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (6,233,347 B1) in view of Muratani et al (6,757,405 B1).

As per claims 3 and 10 Chen et al (6,233,347 B1) teach all limitation of the claims of the electronic watermark inserter system and method **as defined in claims 1, 8 and 7 respectively** but do not explicitly disclose picture analysis means for analyzing an input picture for determining the insertion strength of said electronic watermark pattern into each pixel of said picture; said electronic watermark pattern or patterns and said key information patterns being inserted in accordance with said insertion strength information. However Muratani et al (6,757,405 B1) disclose analysis means for

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analyzing an input picture for determining the insertion strength of said electronic watermark pattern into each pixel of said picture; said electronic watermark pattern or patterns and said key information patterns being inserted in accordance with said insertion strength information (see fig.9A, item 112 and step S8 of fig.9B where it **disclose judgment means and method that corresponds to Applicant's analysis means and method**; col.19, lines 9-56 where it **disclose embedding intensity are obtained based on the amplitude of the beat and based on that intensity or strength the information watermark is inserted**; col.6, lines 58-67 and col.7, lines 1-30 **disclose the above calculated insertion in a broader language with respect to insertion of embedded information within a pixel based on the frequency component value**; col.9, lines 13-37 **disclose the judgment analysis of the above definition in a broader terms**; Examiner has considered "embedded intensity" corresponding to "insertion strength", it's calculated value to "insertion strength value"; "Judgment unit" to "analysis means"). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Muratani et al's insertion strength watermarking analysis system into Chen's information embedding system with respect to images in order to multiply the pixel value data of an image and subject it to orthogonal transformation in order to realize a significant watermark embedding and highly accurate watermark detection thereby providing higher-speed processing.

Allowable Subject Matter

12. Claims 7, 14-15 and 18-20 are allowed.

13. Dependent claims 15 and 19 are allowable as being dependent upon Independent claims **14 and 18** and having additional allowable features therein.

14. Claims 2, 4, 6, 9, 11, 13 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (claims 2 and 9 should also overcome objection given in paragraph 9 above).

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kambiz Zand whose telephone number is (571) 272-3811. The examiner can normally be reached on Monday-Thursday (8:00-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR

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or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kambiz Zand

03/04/05